REMARKS

The Examiner's Action mailed on June 7, 2010, has been received and its contents carefully considered. An RCE is filed herewith under 37 CFR §1.114.

In this Amendment, Applicants have cancelled claims 1, 2, 4, and 6-15 without prejudice, and newly added claims 16-102. Claims 16, 38, 61 and 82 are the independent claims, and claims 16-102 are pending in the application. For at least the following reasons, it is submitted that this application is in condition for allowance.

The drawings were objected to for not showing every feature recited in the claims. It is respectfully submitted that this objection should be withdrawn.

The claims have all been cancelled and the new claims substituted therefor do not recite the term "viewed from vertically above".

Further, the term "wherein a difference in level caused by the opening is not located in a gap between the solid state device and the semiconductor chip" is supported by FIG. 2C as filed (and shown below), but this has been re-worded in the new claims such that claim 38 now recites that "no level difference, other than a level difference in the sealing layer or a level difference formed by a wiring connected to the connecting member via a connection pad provided on the surface of the solid state device, exists within the opening of the insulating film" and claim 82 now recites that "no level difference, other than a level difference in the sealing layer, exists within the opening of the insulating film".

Claims 8-15 were objected to for informalities. As claims 8-15 have been cancelled, it is respectfully submitted that this objection is moot.

Claims 1, 2, 4, 6 and 7 were rejected under 35 USC §112, ¶2 as indefinite. This rejection is respectfully traversed.

Claims 1, 2, 4, 6 and 7 have been cancelled and replaced by new claims.

However, with respect to the phrase "when the surface of the solid state device facing the semiconductor chip is viewed from vertically above", this phrase is no longer recited in the claims.

Instead, newly added claims 23, 45, 70 and 91 recite "wherein the opening of the insulating film is formed so that the semiconductor chip completely falls *laterally* within the opening", newly added claims 24, 46, 71 and 92 recite "wherein a *lateral* distance between an outer periphery of the semiconductor chip and an edge of the opening of the insulating film is 0.1 mm or more", and newly added claims 30, 52, 74 and 95 recite "wherein the opening of the insulating film includes two or more openings each completely *laterally* including each semiconductor chip" (*emphasis added*).

Further, as noted above with respect to the objections to the drawings, with regard to the phrase "wherein a difference in level caused by the opening is not located in a gap between the solid state device and the semiconductor chip", newly added claim 38 recites "wherein no level difference, other than a level difference in the sealing layer or a level difference formed by a wiring connected

to the connecting member via a connection pad provided on the surface of the solid state device, exists within the opening of the insulating film" and newly added claim 82 recites "wherein no level difference, other than a level difference in the sealing layer, exists within the opening of the insulating film", which clarifies that these features do not relate to the sealing layer, i.e. the underfill.

It is therefore respectfully submitted that the present claims are definite.

Claims 1, 2, 4 and 7-15 were rejected under 35 USC §103(a) as obvious over *Sunohara* (US 2005/0067715 A1) in view of *Toyosawa* (US 2004/0108594 A1). This rejection is respectfully traversed.

Claims 1, 2, 4 and 7-15 have been cancelled, and the new set of claims includes four independent claims 16, 38, 61 and 82. Claims 16 and 38 are supported by the embodiment of FIG. 1, whereas claims 61 and 82 are supported by the embodiment of FIG. 3. The new independent claims have the following features that are not taught by *Sunohara* and *Toyosawa*.

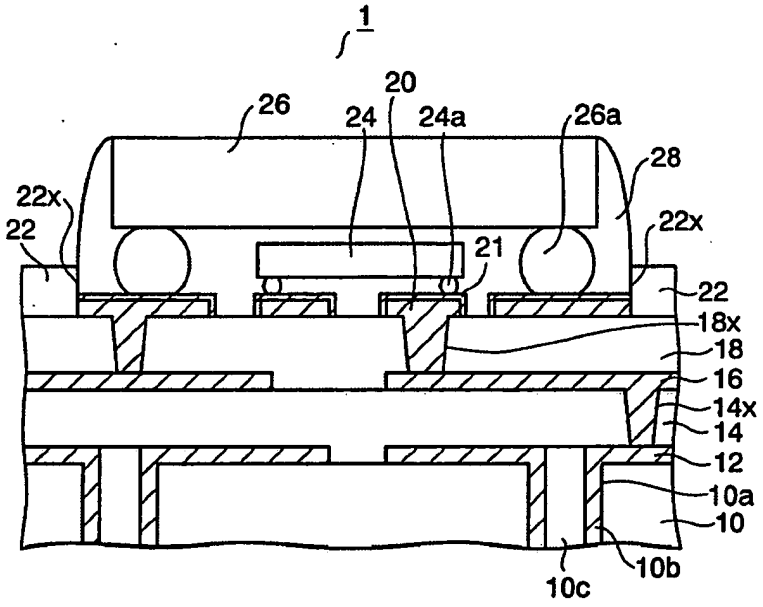
New independent claims 16 and 61 each recite "a connecting member provided between the surface of the solid state device and the functional surface of the semiconductor chip, the connecting member extending over a distance between the surface of the solid state device and the functional surface of the semiconductor chip and having a constant width".

In *Sunohara*, neither of the bumps **24a** and **26a** have a constant width, as they are substantially spherical in shape (see FIG. 3H, reproduced below).

ANNOTATED DRAWING

Sunohara

FIG. 3H

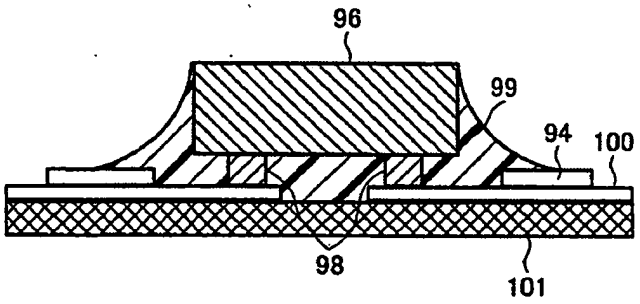


In the invention of *Toyosawa*, the bump electrode **98** does not extend over a distance between the surface of the film substrate **101** and the opposed surface of the semiconductor chip **96** (see FIG. 2(b), reproduced below).

ANNOTATED DRAWING

Toyosawa

FIG. 2 (b)



A part of the inner lead **100** and the bump electrode **98** may extend over a distance between the surface of the film substrate **101** and the opposed surface of the semiconductor chip **96**. However, the part of the inner lead **100** and the bump electrode **98** do not have a constant width.

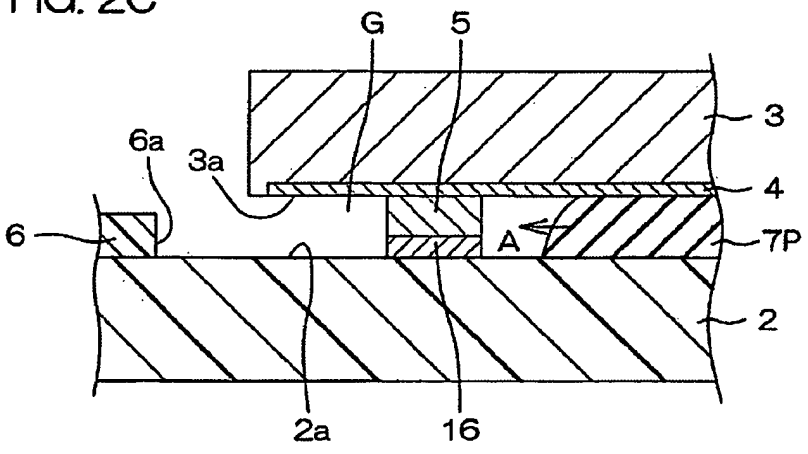
Hence, neither *Sunohara* nor *Toyosawa*, whether taken separately or in combination, teach or suggest "a connecting member provided between the surface of the solid state device and the functional surface of the semiconductor chip, the connecting member extending over a distance between the surface of the solid state device and the functional surface of the semiconductor chip and having a constant width" as recited in claims 16 and 61.

Consequently, newly added independent claims 16 and 61 patentably distinguish over *Sunohara* and *Toyosawa*, and are therefore allowable, together with claims 17-37 and 62-81 that depend respectively therefrom.

In a non-limiting example of the present invention, as shown in FIG. 2C, reproduced below, opening **6a** is laterally greater in size than the semiconductor chip **3**, such that the level difference between the solder resist film **6** and the wiring board **2** is not located in the gap **G** between the semiconductor chip **3** and the wiring board **2**.

ANNOTATED DRAWING

FIG. 2C



New independent claim 38 recites that "no level difference, other than a level difference in the sealing layer or a level difference formed by a wiring connected to the connecting member via a connection pad provided on the surface of the solid state device, exists within the opening of the insulating film" and new independent claim 82 recites that "no level difference, other than a level difference in the sealing layer, exists within the opening of the insulating film".

With respect to claims 38 and 82, in *Sunohara*, at least steps formed by the semiconductor chip **24** exist within the opening of the solder resist film **22** (see FIG. 3H, above), and in *Toyosawa*, steps formed by connection pads (which would be formed at end portions of the inner leads **100** for connection with the bump electrodes **98**) exist in the opening of the solder resist **94** (see FIG. 2(b), above).

Hence, neither *Sunohara* nor *Toyosawa*, whether taken separately or in combination, teach or suggest "no level difference, other than a level difference in the sealing layer or a level difference formed by a wiring connected to the connecting member via a connection pad provided on the surface of the solid state device, exists within the opening of the insulating film" as recited in claim 38 or "no level difference, other than a level difference in the sealing layer, exists within the opening of the insulating film" as recited in claim 82.

Consequently newly added independent claims 38 and 82 patentably distinguish over *Sunohara* and *Toyosawa*, and are allowable, together with claims 39-60 and 83-102 that depend respectively therefrom.

Claim 6 was rejected under 35 USC §103(a) as obvious over *Sunohara* in view of *Toyosawa* and further in view of *Urasaki et al.* (US 6,281,450 B1). This rejection is respectfully traversed.

Claim 6 has been cancelled, but newly added dependent claims 24, 46, 71 and 92 recite similar features to claim 6, and are supported by at least ¶[0020] of the application as filed.

Claims 24, 46, 71 and 92 depend directly from claims 16, 38, 61 and 82 respectively, and as *Urasaki et al.* fails to overcome the deficiencies of *Sunohara* and *Toyosawa* with respect to claims 16, 38, 61 and 82, therefore claims 24, 46, 71 and 92 are allowable for at least the reasons that claims 16, 38, 61 and 82 are respectively allowable.

Claim 15 was rejected under 35 USC §103(a) as obvious over *Sunohara* in view of *Toyosawa* and further in view of *Lee et al.* (US 6,172,423 B1). This rejection is respectfully traversed.

Claim 15 has been cancelled, but newly added dependent claims 26 and 48 recite similar features to claim 15, and claims 27, 28, 49 and 50 depend respectively therefrom. Claims 26-28 and 48-50 are supported by at least ¶[0022] of the application as filed.

Claims 26 and 48 depend directly from claims 16 and 38 respectively, and as *Lee et al.* fails to overcome the deficiencies of *Sunohara* and *Toyosawa* with respect to claims 16 and 38, therefore claims 26-28 and 48-50 are allowable for at least the reasons that claims 16 and 38 are respectively allowable.

It is submitted that this application is in condition for allowance. Such action and the passing of this case to issue are requested.

Should the Examiner feel that a conference would help to expedite the prosecution of this application, the Examiner is hereby invited to contact the undersigned counsel to arrange for such an interview.

Should the remittance be accidentally missing or insufficient, the Commissioner is hereby authorized to charge the fee to our Deposit Account No. 18-0002, and advise us accordingly.

Respectfully submitted,

September 7, 2010
Date

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FEE ENCLOSED: $ 4,514.00
Please charge any further fee to our Deposit Account No. 18-0002